

Claims

1. A digital telecommunication system wherein terminals and a telecommunication network comprise speech codecs, the speech codecs of the telecommunication network being disposed in a transcoder unit, from which a centre in the telecommunication network connects a transcoder for a speech connection, when required, **characterized** in that

the centre of the calling terminal is arranged to perform handshaking with the centre of the called terminal, said handshaking including notification of the speech codecs supported by the calling terminal, to choose the speech codec used by the terminals, and

the centres are arranged to establish call connections past the transcoder unit or to control the transcoder units to let the encoded speech through without speech encoding operations so that speech is encoded and decoded only in the terminals.

15 2. A telecommunication system as claimed in claim 1, **characterized** in that

said telecommunication system is a mobile communication system in which said terminals comprise mobile stations, said telecommunication network comprises a mobile communication network and said centre of the telecommunication network comprises a mobile switching centre.

3. A telecommunication system as claimed in claim 2, **characterized** in that

the mobile switching centre comprises a subscriber database for maintaining subscriber data on a mobile subscriber when the mobile station is located within the area of the mobile switching centre, and

said subscriber data comprises information on the speech codecs supported by the subscriber's mobile station.

4. A telecommunication system as claimed in any one of claims 1 to 3, **characterized** in that

30 said handshaking is carried out as outband signalling.

5. A telecommunication system as claimed in claim 4, **characterized** in that

the mobile switching centres are arranged to carry out said handshaking in association with a routing information inquiry in response to the called subscriber being a mobile subscriber.

35 6. A telecommunication system as claimed in claim 5, **characterized**

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terized in that

the mobile switching centre of the calling subscriber is arranged to send a routing information inquiry comprising information on the speech codecs supported by the mobile station,

5 the mobile switching centre of the called subscriber is arranged to select for the call connection a speech codec which the mobile stations of both the called and calling subscribers support, and

10 the mobile switching centre of the called subscriber is arranged to send information on said speech codec, selected for the call connection, in a reply message to the routing information inquiry.

7. A telecommunication system as claimed in claim 6, characterized in that

15 said routing information inquiry and reply message to the routing information inquiry are arranged to pass via the home database of the called subscriber.

8. A telecommunication system as claimed in claim 4, characterized in that

the mobile switching centres are arranged to carry out said handshaking in association with inter-MSC signalling, such as ISUP signalling.

20 9. A telecommunication system as claimed in claim 8, characterized in that

25 the mobile switching centre of the calling subscriber is arranged to send a message requesting connection set-up, such as an IAM message according to ISUP signalling, the message containing information on the speech codecs supported by the mobile station,

the mobile switching centre of the called subscriber is arranged to select for the call connection a speech codec which the mobile stations of both the called and calling subscribers support, and

30 the mobile switching centre of the called subscriber is arranged to send information on said codec, selected for the call connection, in a reply message to the connection set-up message, such as in an ANM message according to ISUP signalling.

10. A telecommunication system as claimed in any one of the preceding claims, characterized in that

35 when required, at least one of the mobile switching centres is arranged to notify the mobile station of the speech codec it has to use as the re-

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sult of said handshaking.

11. A telecommunication system as claimed in claim 10, **characterized** in that

the mobile switching centre is arranged to notify the mobile station
5 of the speech codec to be used if it is not the default speech codec of the mobile station.

12. A telecommunication system as claimed in any one of the preceding claims, **characterized** in that

a pulse code modulated (PCM) digital link exists between the mobile switching centres, and

the mobile switching centres are arranged to control the transcoder units at the ends of said link to adapt the encoded speech signal to one or more least significant bits of PCM samples without transcoding.

13. A telecommunication system as claimed in any one of claims 1 to 11, **characterized** in that

a packet-switched link exists between the mobile switching centres, such as a network based on the ATM or IP technology, and

the mobile switching centres are arranged to connect a call connection past the transcoder unit.

14. A centre in a digital telecommunication network, the centre being arranged to connect a transcoder located in a transcoder unit to a call connection when required, **characterized** in that

said centre is arranged to perform handshaking with the centre of a called terminal, said handshaking including notification of the speech codecs supported by the calling terminal, to choose the speech codec used by the terminals, and

said centre is arranged to connect a call connection past the transcoder unit or to control the transcoder unit to let the encoded speech through without speech encoding operations in such a way that speech encoding and decoding are only carried out in the terminal.